Fig.1
(PRIOR ART)

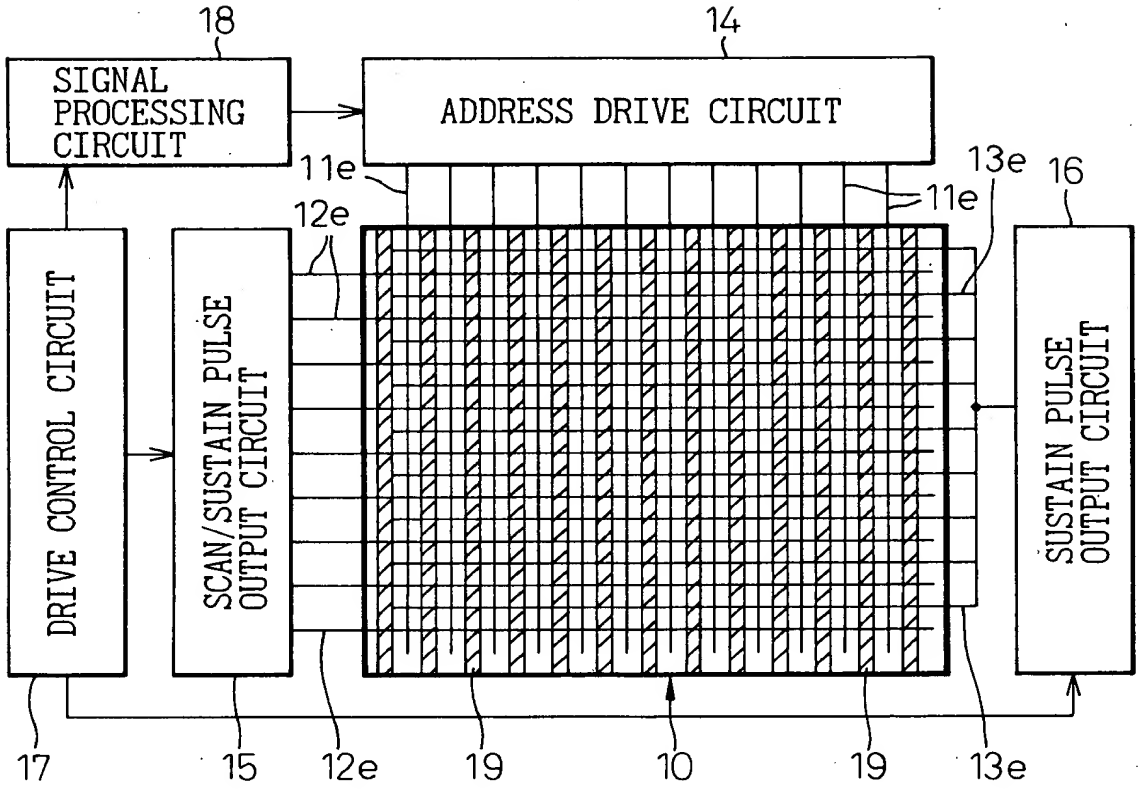

Fig.2
(PRIOR ART)

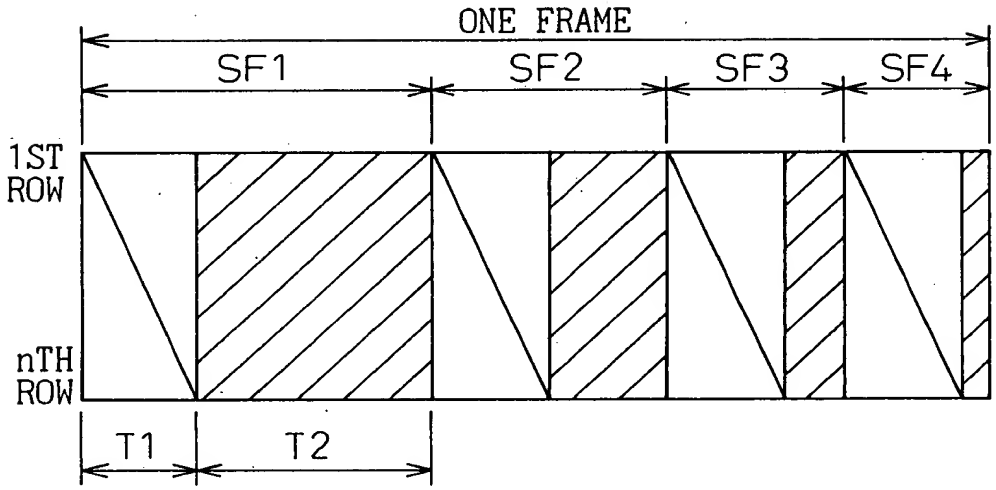

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Fig.3A
(PRIOR ART)

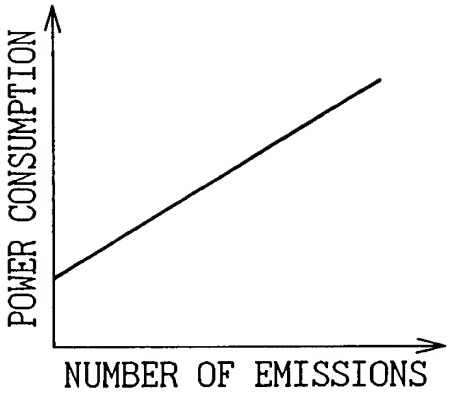

Fig.3B
(PRIOR ART)

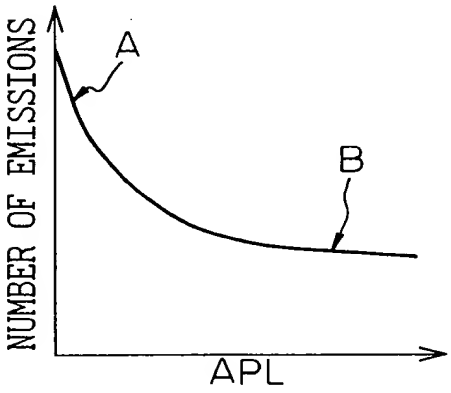

Fig.3C
(PRIOR ART)

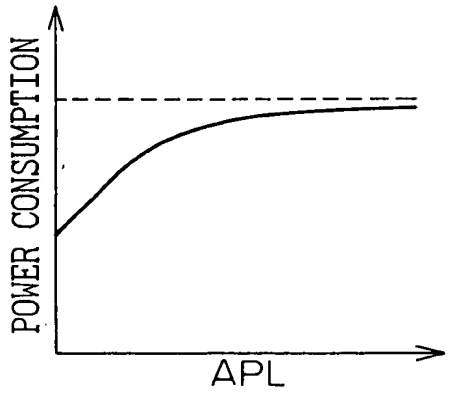

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Fig. 4
(PRIOR ART)

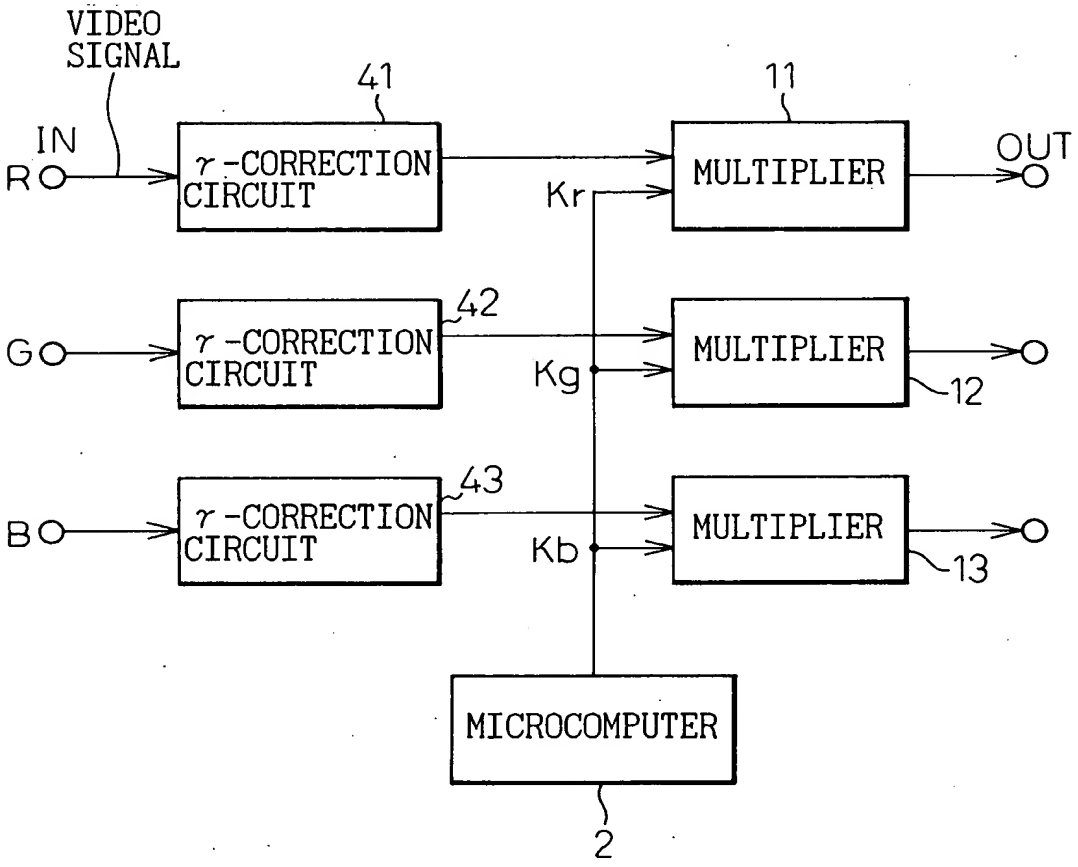

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Fig.5A

(PRIOR ART)

RELATIONSHIP BETWEEN THE NUMBER OF EMISSIONS AND LUMINANCE

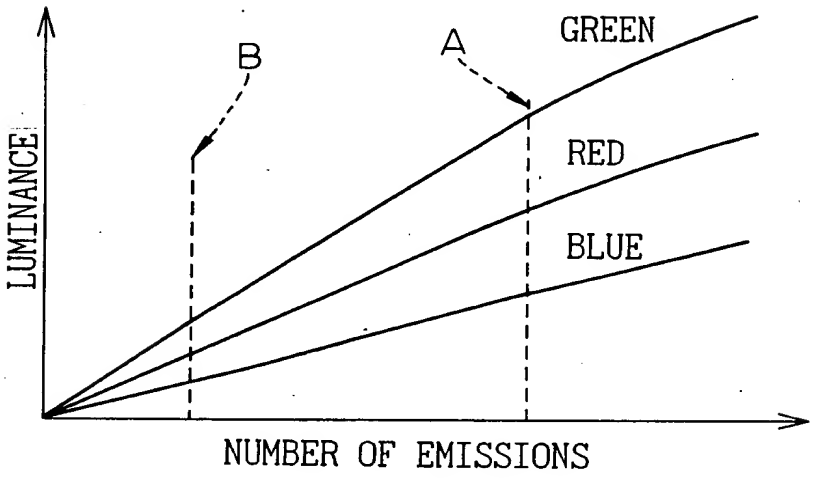

Fig.5B

(PRIOR ART)

UNIT EMISSION LUMINANCE CHARACTERISTICS DUE TO DECREASE OF ENERGY CONVERSION EFFICIENCY

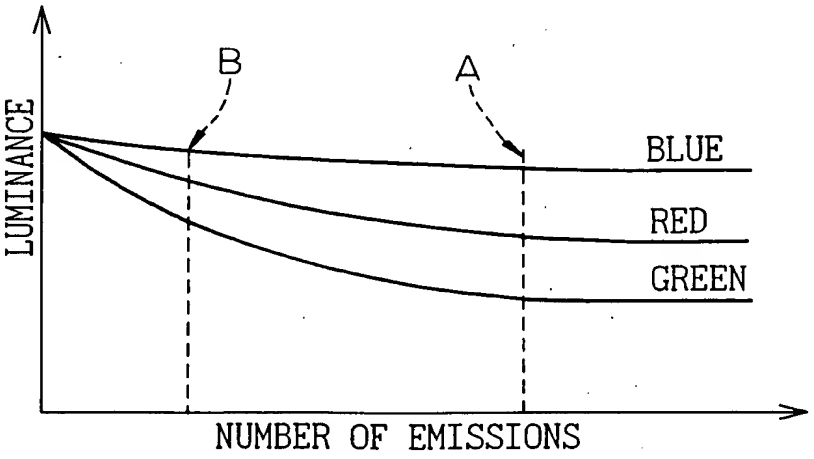

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Fig.6

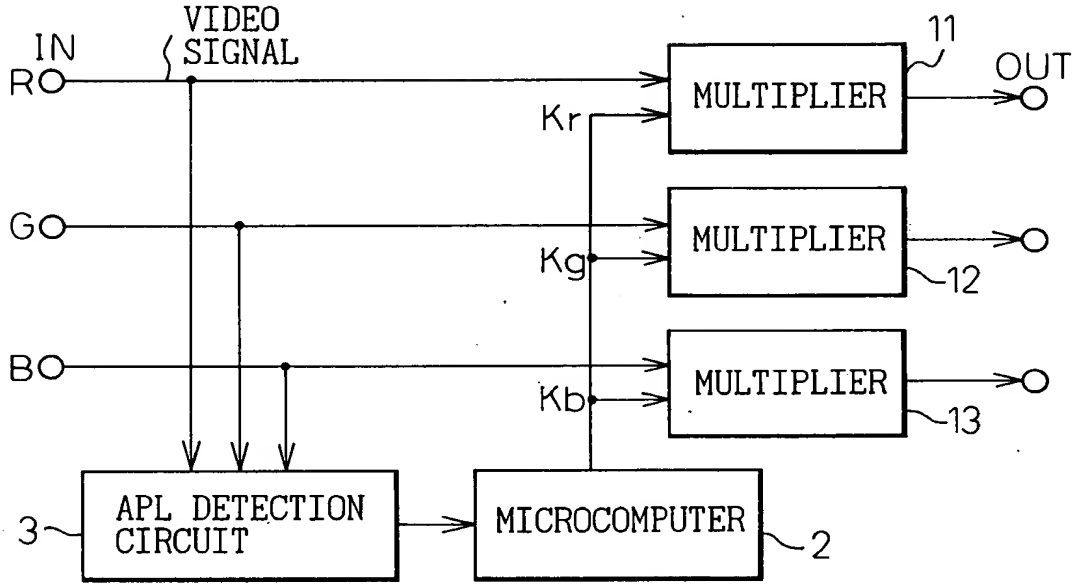
IN
VIDEO SIGNAL
R
G
B
Kr
Kg
Kb
MULTIPLIER
MULTIPLIER
MULTIPLIER
11
12
13
OUT
APL DETECTION CIRCUIT
3
MICROCOMPUTER
2

Fig.7

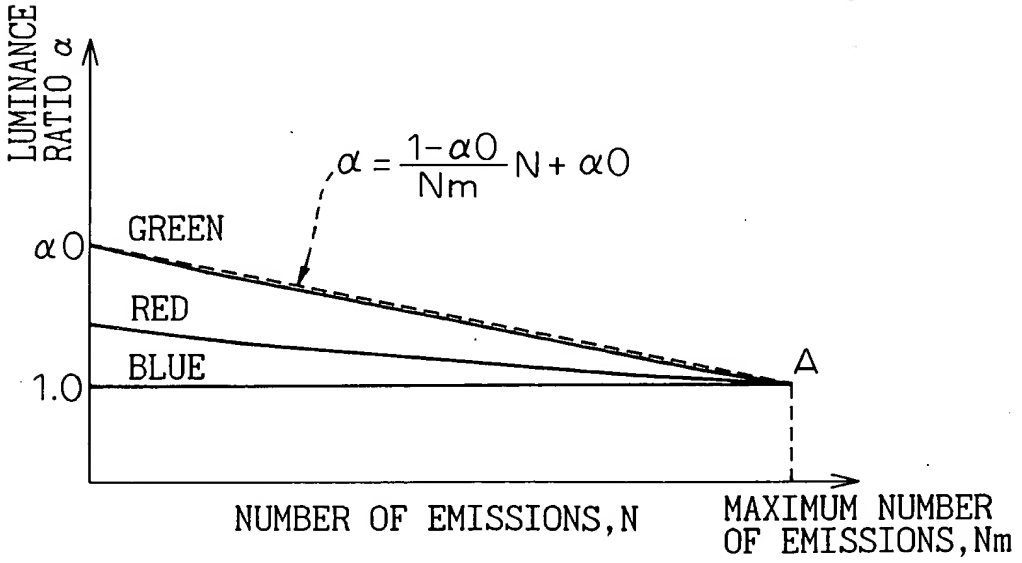
LUMINANCE RATIO α
α = (1-α0)/Nm N + α0
α0
GREEN
RED
BLUE
1.0
A
NUMBER OF EMISSIONS, N
MAXIMUM NUMBER OF EMISSIONS, Nm

Fig.8

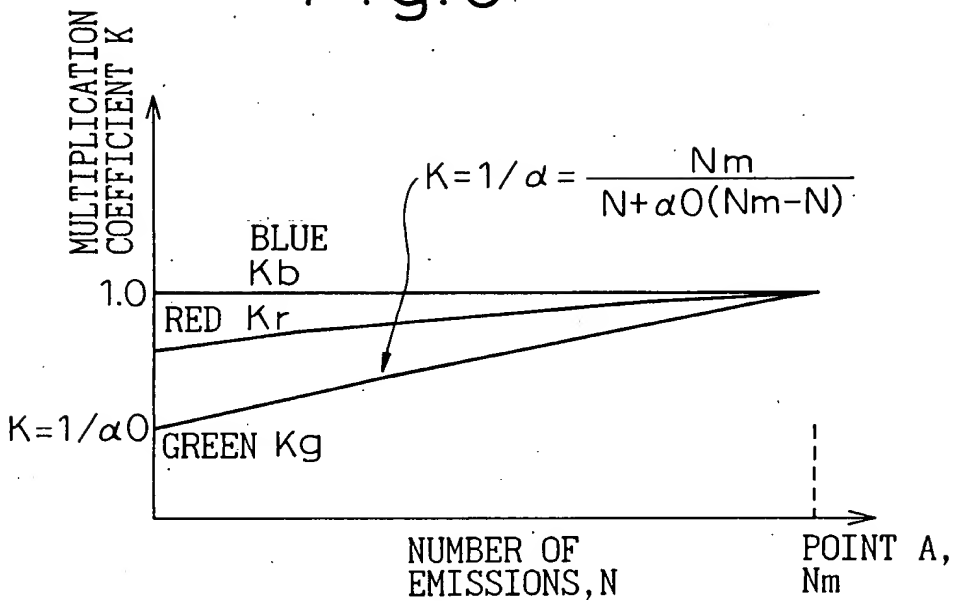

Fig.9

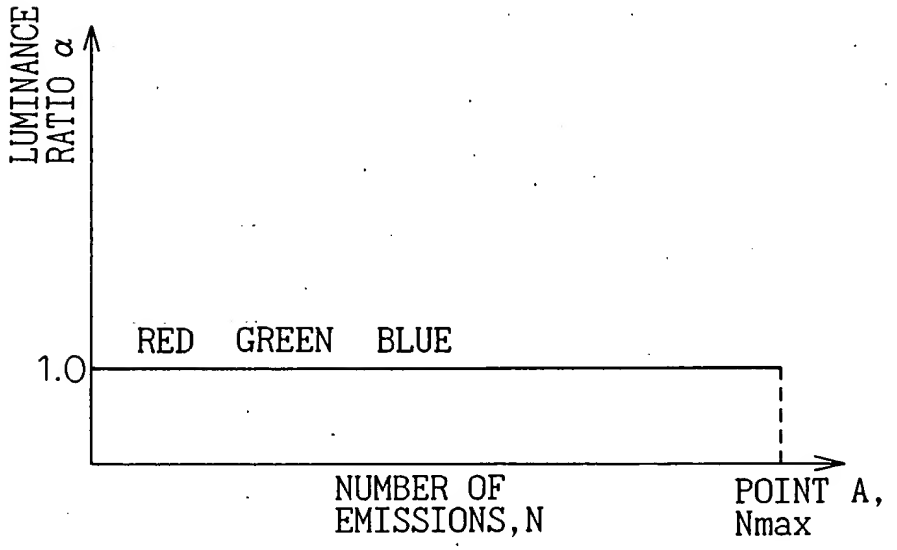

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Fig.10

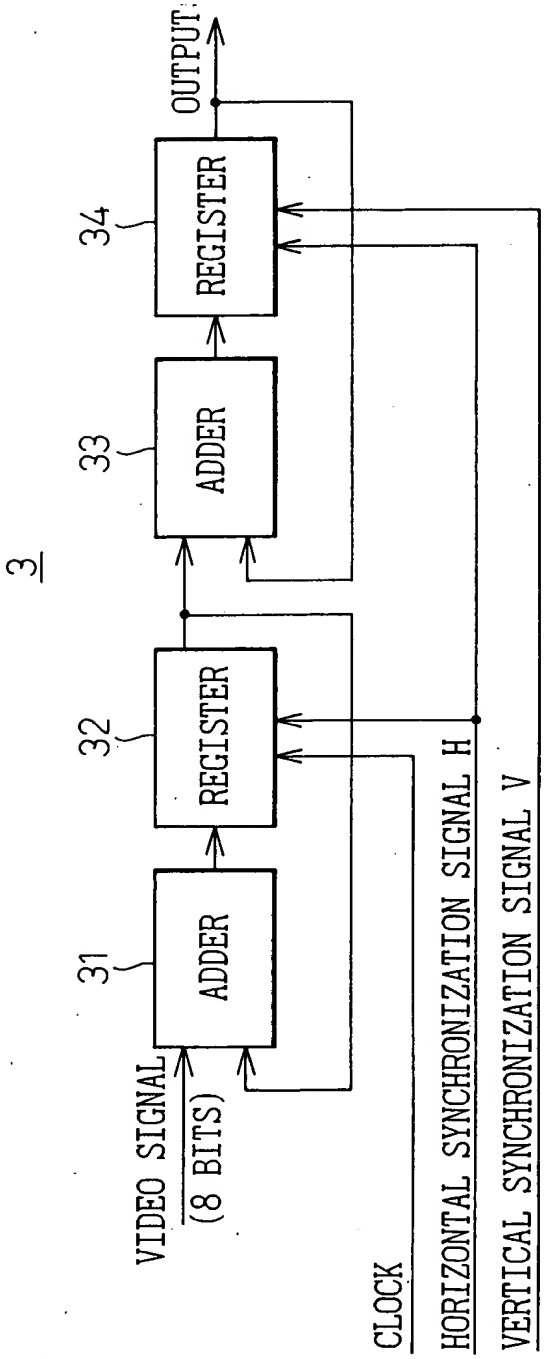
3
31
ADDER
32
REGISTER
33
ADDER
34
REGISTER
OUTPUT
VIDEO SIGNAL
(8 BITS)
CLOCK
HORIZONTAL SYNCHRONIZATION SIGNAL H
VERTICAL SYNCHRONIZATION SIGNAL V

Fig.11

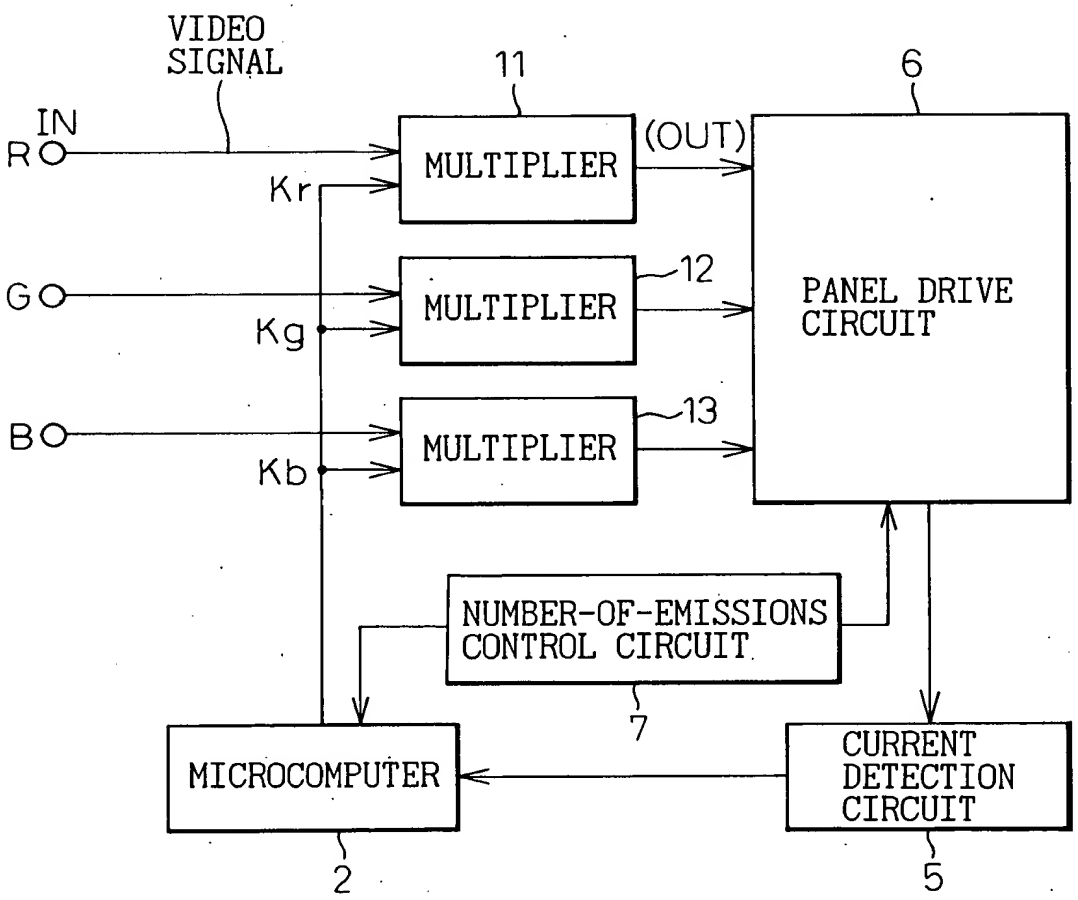

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Fig.12

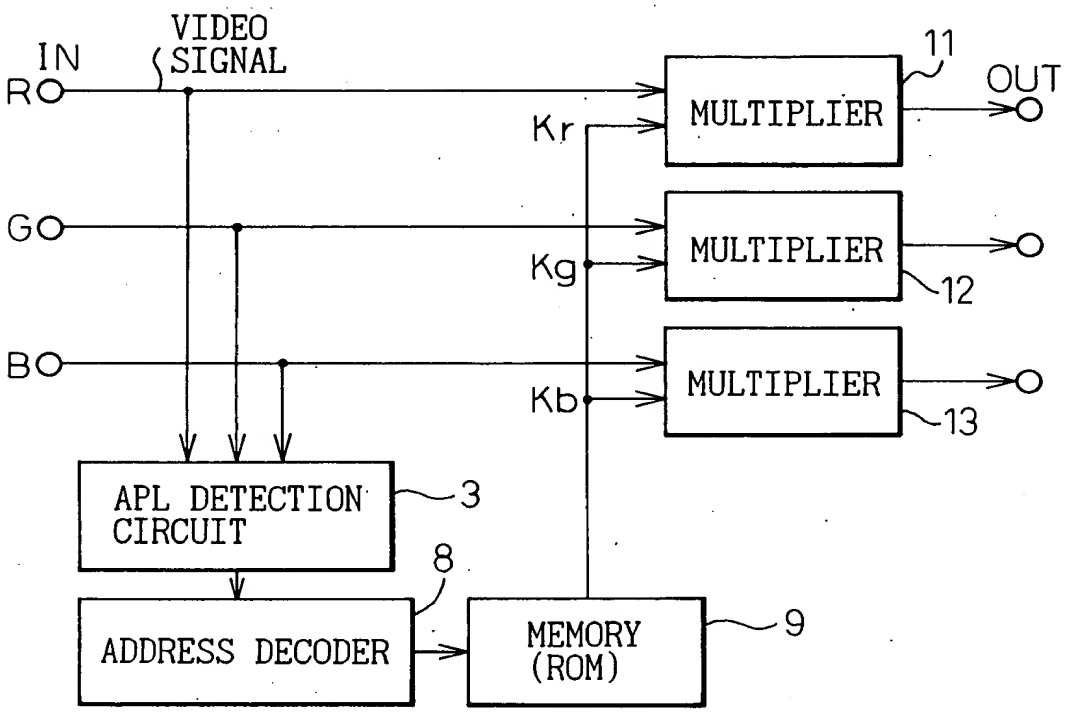
IN
VIDEO SIGNAL
R
G
B
Kr
Kg
Kb
MULTIPLIER
11
MULTIPLIER
12
MULTIPLIER
13
OUT
APL DETECTION CIRCUIT
3
ADDRESS DECODER
8
MEMORY (ROM)
9

Fig.13

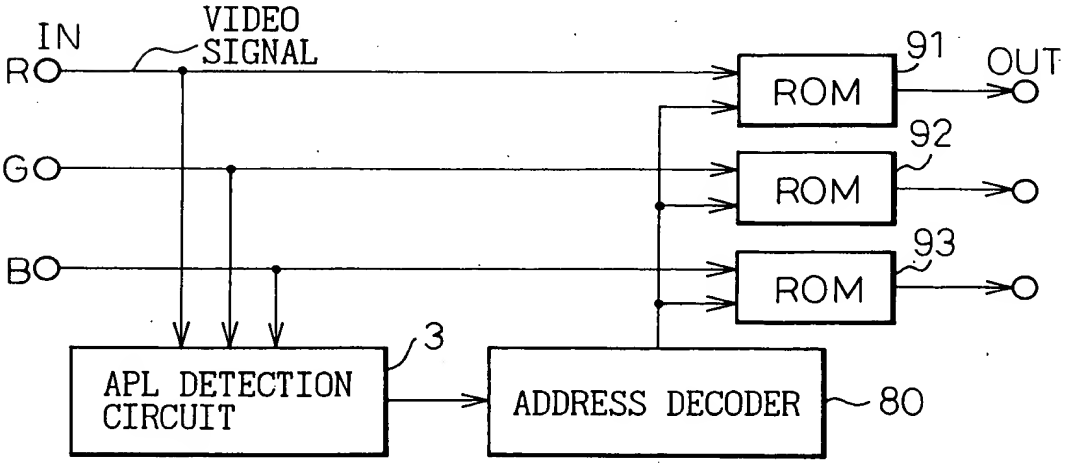
IN
VIDEO SIGNAL
R
G
B
ROM
91
ROM
92
ROM
93
OUT
APL DETECTION CIRCUIT
3
ADDRESS DECODER
80

Fig.14

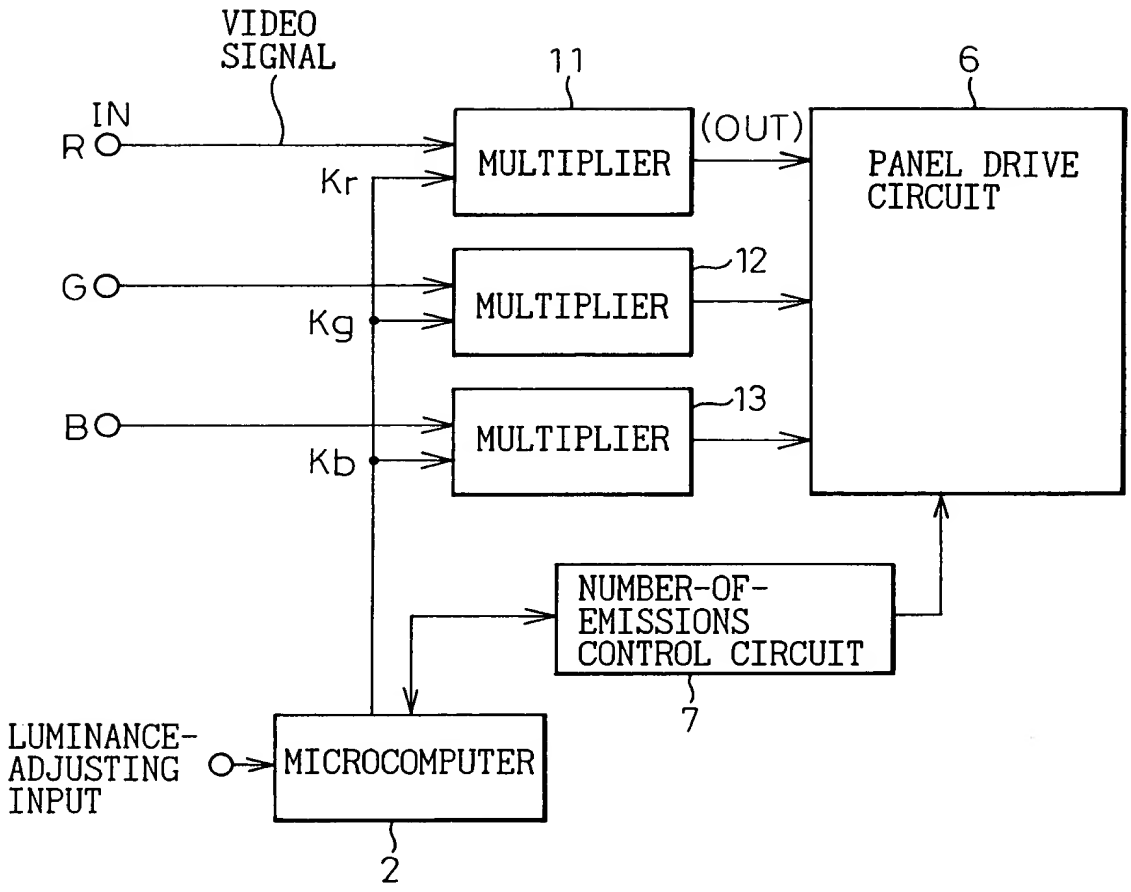

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Fig.15

GRAY LEVEL SMALL → LARGE

NUMBER OF EMISSIONS SMALL ↓ LARGE

GRAY LEVEL		A	B	C	D	E	F
NUMBER OF EMISSIONS (NUMBER OF TIMES)	P1	Fa	Fb	Fc	Fd	Fe	Ff
	P2	2×Fa	2×Fb	2×Fc	2×Fd	2×Fe	2×Ff
	P3	3×Fa	3×Fb	3×Fc	3×Fd	3×Fe	3×Ff
	P4	4×Fa	4×Fb	4×Fc	4×Fd	4×Fe	4×Ff
	P5	5×Fa	5×Fb	5×Fc	5×Fd	5×Fe	5×Ff
	⋮	⋮	⋮	⋮	⋮	⋮	⋮
	⋮	⋮	⋮	⋮	⋮	⋮	⋮

Fig.16

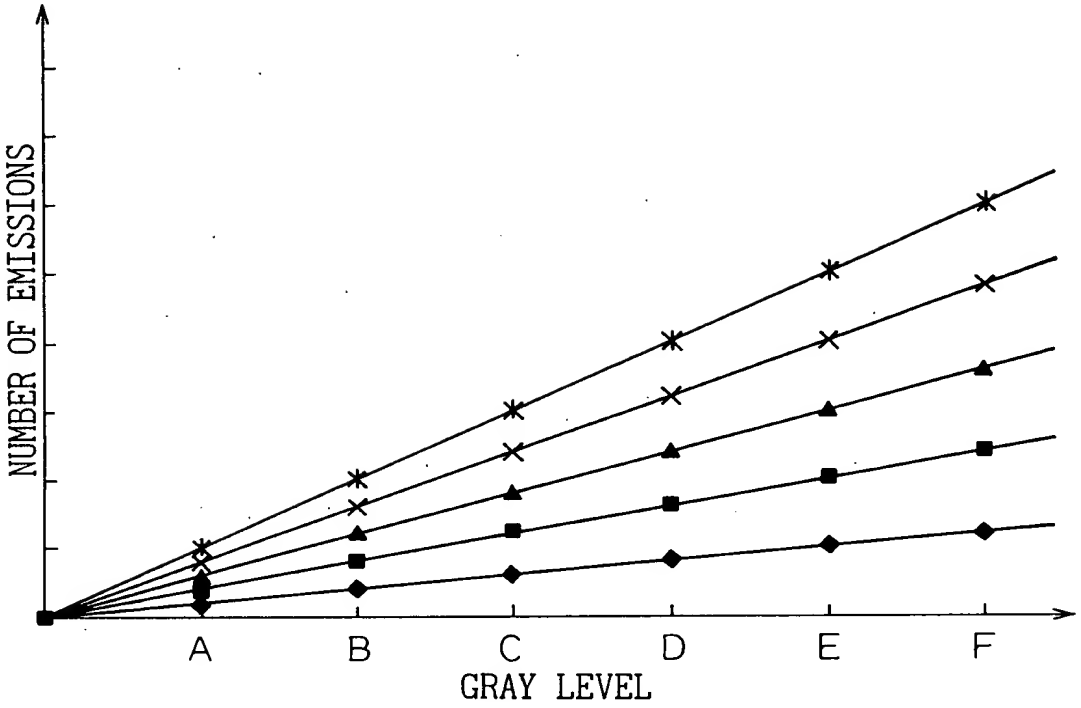

Fig.17

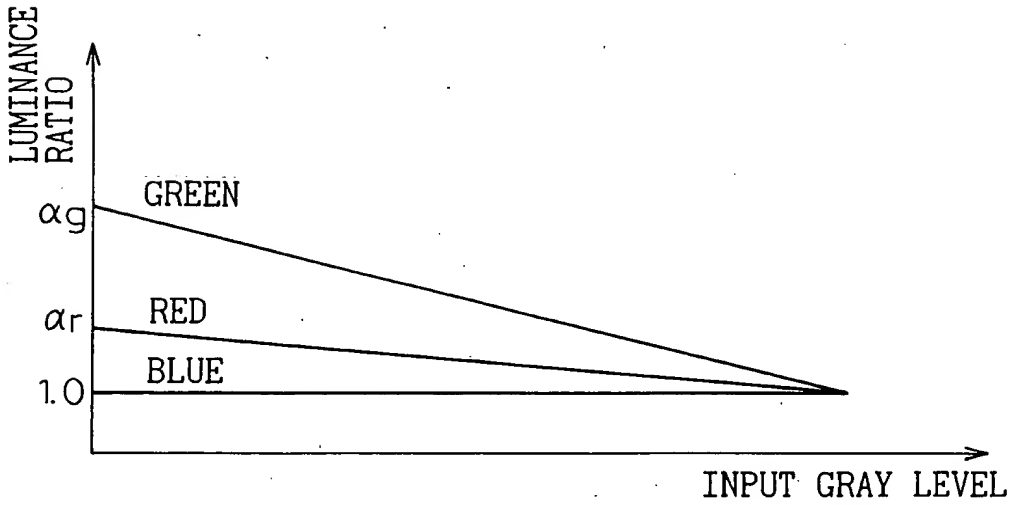

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Fig.18

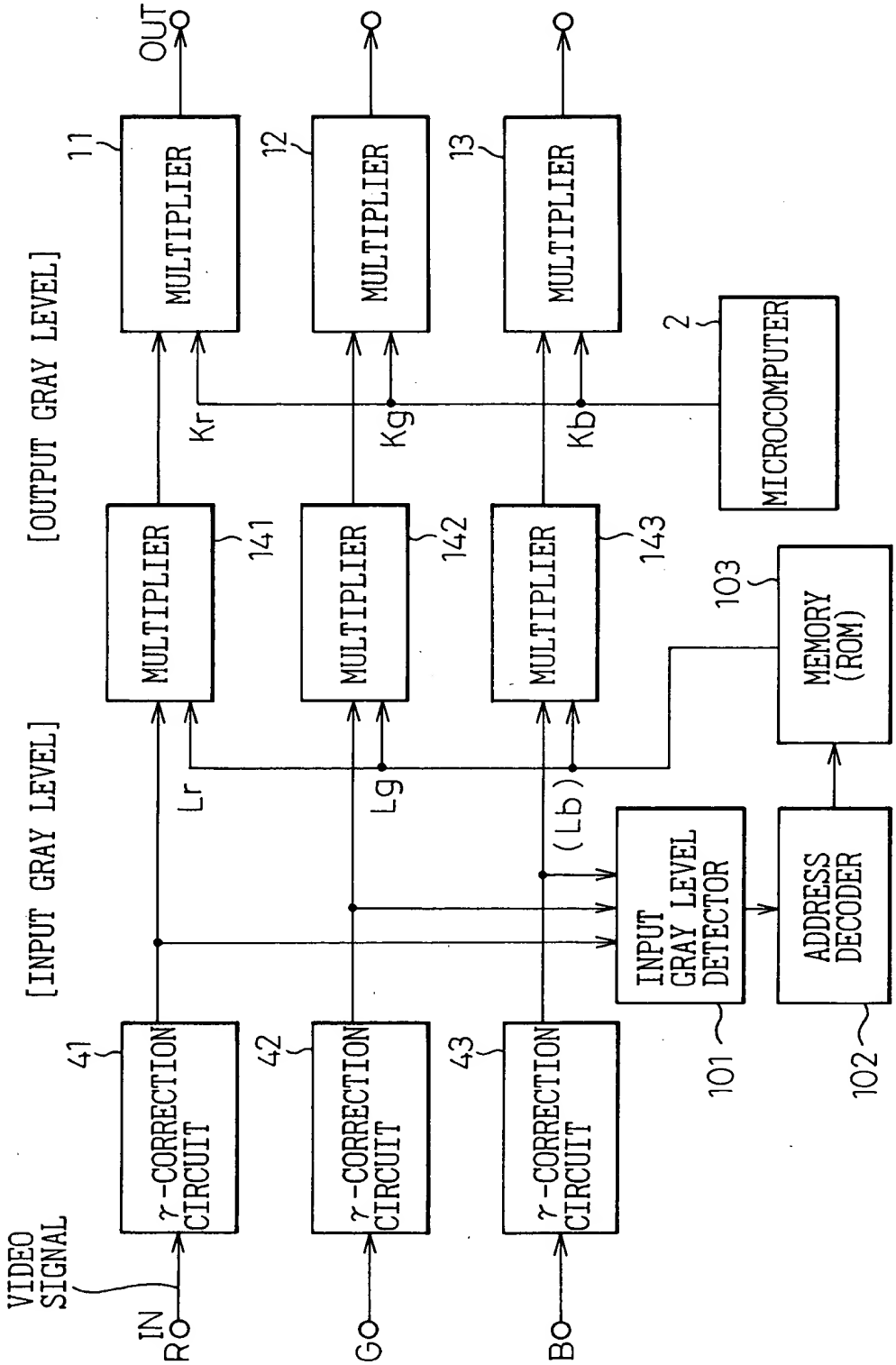
VIDEO SIGNAL
IN
RO
GO
BO
γ-CORRECTION CIRCUIT
41
42
43
[INPUT GRAY LEVEL]
Lr
Lg
(Lb)
MULTIPLIER
141
142
143
[OUTPUT GRAY LEVEL]
Kr
Kg
Kb
11
12
13
OUT
MICROCOMPUTER
2
INPUT GRAY LEVEL DETECTOR
101
ADDRESS DECODER
102
MEMORY (ROM)
103

Fig.19

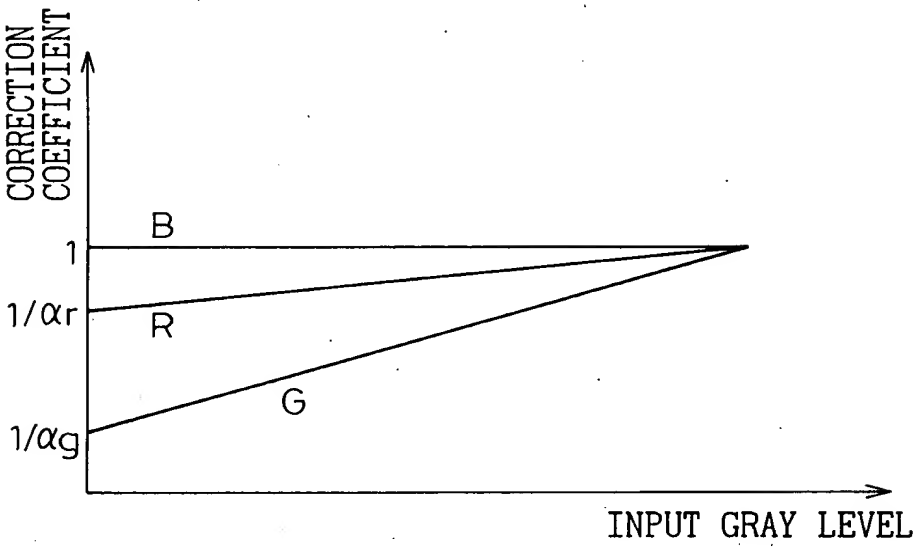

Fig.20

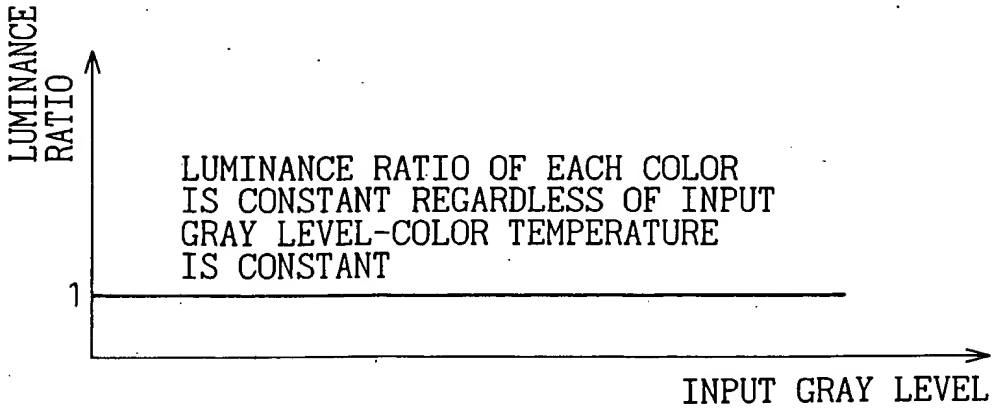

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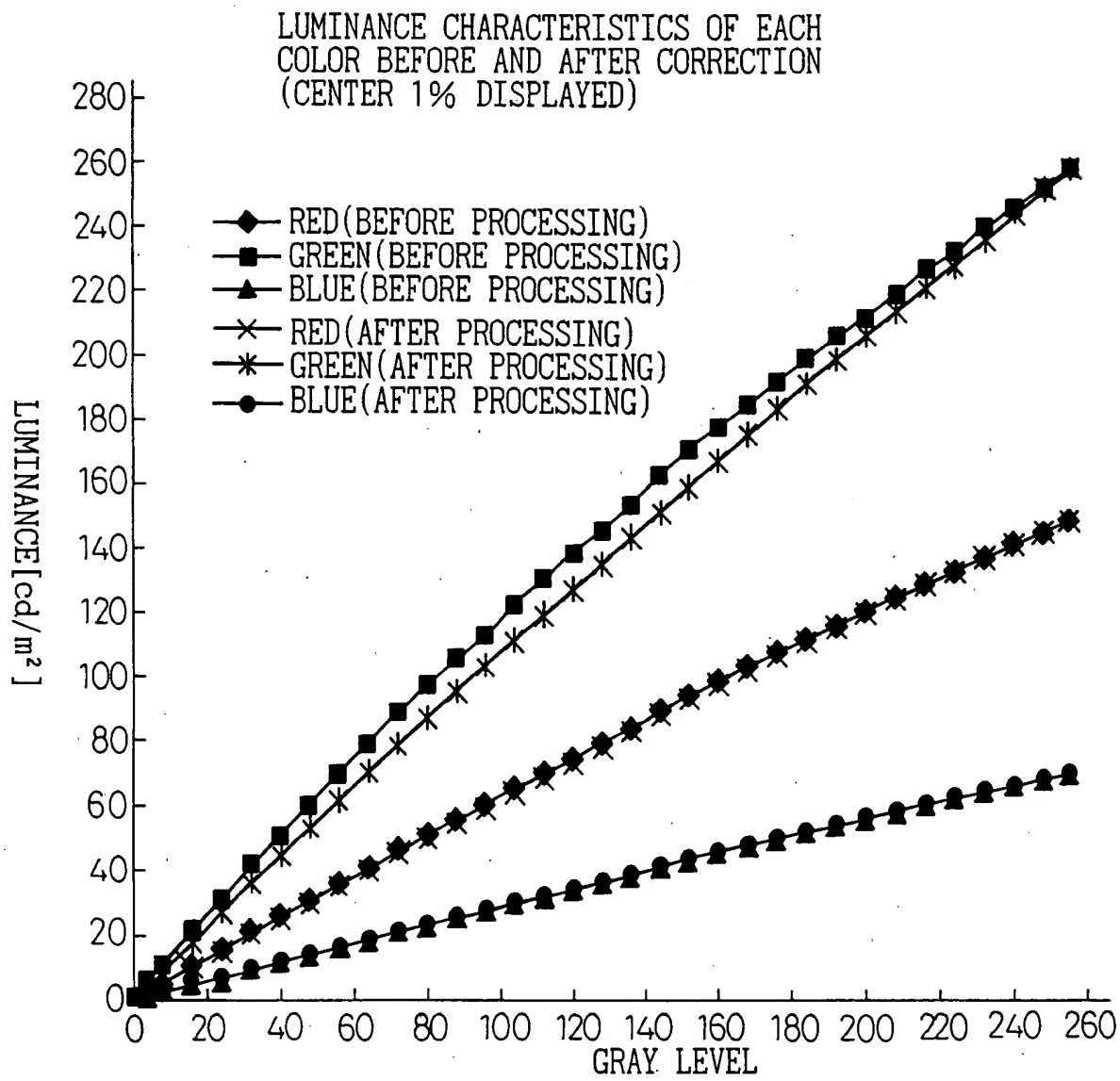
Fig.21


LUMINANCE CHARACTERISTICS OF EACH COLOR BEFORE AND AFTER CORRECTION (CENTER 1% DISPLAYED)
RED(BEFORE PROCESSING)
GREEN(BEFORE PROCESSING)
BLUE(BEFORE PROCESSING)
RED(AFTER PROCESSING)
GREEN(AFTER PROCESSING)
BLUE(AFTER PROCESSING)
LUMINANCE[cd/m²]
GRAY LEVEL
0
20
40
60
80
100
120
140
160
180
200
220
240
260
280